said to be intermediate between Orchis Morio and Orchis longicornis (Desfontaines): it is from Hyères.—Notice of the addition of Arceutolobium (Viscum Oxycedri) to the French flora, by M. Requien, the well-known botanist of Avignon.

PREPARING FOR PUBLICATION.

A History of the British Freshwater Algæ. By Arthur Hill Hassall.

This work is intended to contain a complete account of the Modes of Reproduction, Growth, Vitality, Distribution, Uses, Classification, and Species of this most extensive and interesting class of plants; interesting from the importance and number of the physiological and anatomical facts connected with their history. It will comprise about 300 pages of letter-press and seventy plates of drawings, illustrating every species of the classes of Conferveæ and Diatomaceæ hitherto discovered inhabiting the fresh waters of the British Isles, almost all of which will be represented in their perfect state, or that of reproduction. The work is to be published by subscription.

Names of subscribers and communications to be addressed to the

care of Mr. Van Voorst, Paternoster Row.

BOOKS RECEIVED.

Die Sud Afrikanische Crustaceen:—The South African Crustacea. 4to. with Four Plates. Von Dr. Ferdinand Krauss, Stuttgard.

Handbuch einer Geschichte der Natur:—Manual of a History of Nature. By Heinrich C. Bronn, Prof. Nat. Hist. Heidelberg. 2 vols. with several Plates.

Elements of Natural History. By Mrs. R. Lee, illustrated with engravings on wood. [A very excellent manual for the instruction of youth.]

PROCEEDINGS OF LEARNED SOCIETIES.

ZOOLOGICAL SOCIETY.

May 9, 1843.—William Yarrell, Esq., Vice-President, in the Chair. The following descriptions of new species of Shells belonging to the genus *Cyclostoma*, by Mr. G. B. Sowerby, were read.

CYCLOSTOMA PUSILLUM, nob., Thes. Conch. part 3. pl. 23. f. 55*. Cycl. testd orbiculari, subdiscoided; apice spiræ subprominulo; anfractibus quatuor, rotundatis, lineis incrementi solum striatis; suturd profundd; aperturd circulari, peritremate tenuiusculo, subreflexo, posticè prope anfractum ultimum subemarginato; umbilico patulo; operculo multispirali, extùs concavo, margine canaliculato, intùs nitido.

Var. a. Found at the roots of shrubs and trees at Calauang, isle of Luzon, by H. Cuming.

Var. b. Found under decayed leaves in the isle of Negros, by H.

Cuming.

Cyclostoma rufescens, nob., Thes. Conch. part 3. pl. 24. f. 36, 37. Cycl. testá suborbiculari, rufescente, spirá brevi, anfractibus quatuor, rotundatis, spiralitèr costellatis et striatis, costellis crenulatis, suturá profundá; aperturá circulari, peritremate tenui; umbilico magno.

There are two varieties of this species, one of a dark red colour, the other almost white. They were communicated by Mr. Powis,

from Martinique.

Cyclostoma plebeium, nob., Thes. Conch. part 3. pl. 24. f. 40. Cycl. testá subglobosá, tenui, obscurá, subfuscá, spirá breviusculá; anfractibus quatuor, rotundatis, rapide crescentibus, apice obtusiusculo; suturá distinctá; aperturá magná, circulari, peritremate tenui; umbilico parvulo; operculo multispirali, extús albicante, maculá centrali, depressá, margine canaliculato, intús nitido.

Found in the earth under decayed leaves at Calauang, in the pro-

vince of Laguna, isle of Luzon, by H. Cuming.

Cyclostoma spurcum, nob., Thes. Conch. part 3. pl. 24. f. 75, 76. Cycl. testd suborbiculari, rufescente-fuscâ, spird prominuld; anfractibus quatuor, rotundatis, albicante-subvariegatis, spiralitèr striatis et subcarinatis, suturd distinctd, subcrenulatd; aperturd circulari, peritremate albo, tenui, subreflexo; umbilico parvo; operculo crassiusculo, anfractibus quinis.

From the Seychelle Islands. In Mr. Cuming's collection.

Cyclostoma Cincinnus, nob., Thes. Conch. part 3. pl. 24. f. 77, 78. Cycl. testá suborbiculari, subturritá, tenui, albidá, interdúm fusco-unifasciatá; anfractibus quinis, rotundatis, postice spiraliter sulcatis, sulcis subdistantibus, antice spiraliter striatis; suturá distinctá; aperturá circulari, peritremate tenui, versus umbilicum parvum subreflexo, apice obtusiusculo.

Locality not known. In Mr. Cuming's collection.

Cyclostoma nitidum, nob., Thes. Conch. part 3. pl. 29. f. 225, 226, 227. Cycl. testd globoso-conicâ, tenui, pellucidâ, lævi, albâ, interdùm fusco-variegatd, spird acuminatd, anfractibus quinis, rotundatis, ultimo maximo, ventricoso, aperturâ circulari, peritremate reflexo, latere columellari subsinuato; suturd distinctd; umbilico parvo; operculo tenui, corneo, spirali.

Var. a. Shell pale, closely dotted with brown; on leaves of bushes

in the isle of Guimaras.

Var. b. Shell pale, with brown dots and bands; from the same locality as a.

Var. c. Shell white; same locality as a, and on leaves of trees at

Sibonga.

Var. d. Shell pale; found at Cabanatuan.

Var. e. Shell pale, with brown streaks and dots; from the island of Guimaras.

Cyclostoma concinnum, nob., Thes. Conch. part 3. pl. 29. f. 223, 224. Cycl. testá globoso-conicá, tenui, pellucidá, lævi, albidá, viridi-fusco spiralitèr lineatá, spirá acuminatá, anfractibus quinis, rotundatis, ultimo maximo, ventricoso; aperturá circulari, peri-

tremate reflexo, latere columellari subsinuato; suturd distinctâ;

umbilico parvo; operculo tenui, corneo, spirali.

Several varieties of this very pretty species have been brought by Mr. Cuming from the Philippine Islands; they are as follows:—

Var. a. Shell with numerous brownish spiral lines. On leaves of

trees at Jacna, isle of Bohol.

Var. b. Shell white, opake, with hyaline spiral lines and a brown band in front. Found on leaves of bushes at Misamis, island of Mindanao.

Var. c. Shell like var. b, but without the brown band. On leaves

of trees, island of Camaguing.

Var. d. Shell with broader brownish spiral lines. Found on leaves of bushes at Loon, island of Bohol.

Var. e. With the spiral brownish bands subinterrupted. Found

at Marabojoc, island of Bohol, on leaves of trees.

Var. f. Shell pale brown, covered with a thin epidermis with hispid spiral lines. Found on leaves of bushes at Loboc, island of Bohol.

Cyclostoma aquillum, nob., Thes. Conch. part 3. pl. 27. f. 131. Cycl. testá suborbiculari, subdepressá, tenuiusculá, lævi, fulvescente-fusco, nonnunquàm cingulo pallescente mediano; spirá brevi, acuminatiusculá, anfractibus quinis, subplanulatis, primis paululàm carinatis, ultimo maximo, rotundato; aperturá circulari, expansá, albicante vel fulvescente, peritremate subincrassato, reflexo, supra anfractum ultimum interrupto, latere umbilicali subsinuato; umbilico magno.

Found in the woods at Singapore under decayed leaves, by H.

Cuming.

Cyclostoma irroratum, nob., Thes. Conch. part 3. pl. 27. f. 134, 135. Cycl. testá subgloboso-conicá, tenui, lævi, pallescente, fusco-irrorata, plerumque cingulo mediano nigricante; spird elevatius-culd, apice nigricante, obtuso; anfractibus quinis, ventricosis, primùm subcarinatis, deinde rotundatis; suturd tenui; aperturd ferè circulari, posticè obsoletè subacuminata, anfractu ultimo tenuiter modificato, peritremate crassiusculo, rotundato-reflexo; umbilico mediocri.

Numerous specimens of this species have been imported from China within the last few years.

Cyclostoma substriatum, nob., Thes. Conch. part 3. pl. 25. f. 95. Cycl. testâ suborbiculari, depressa, crassiusculâ, læviusculâ, fuscescente, spirâ brevissimâ, submucronatâ; anfractibus quatuor, rotundatis, posticè transversim striatis, striis ex suturd profundâ radiantibus, anticè lævibus; aperturd circulari, peritremate subincrassato, subreflexo; umbilico lato; operculo multispirali, latere canaliculato, intùs nitido.

Found in earth under decayed leaves in the island of Siquijod, by

H. Cuming.

Cyclostoma semisulcatum, nob., Thes. Conch. part 3. pl. 25. f. 99. Cycl. testá suborbiculari, depressiusculd, tenuiusculd, albicante, fasciá angustá medianá, fusco-nigricante, posticè plerumque brun-

neo-variegată; spirâ brevi, anfractibus quinque, postice spiraliter sulcatis, sulcis distantibus, antice læviter striatis vel lævibus; suturd distinctd; aperturd fere circulari, peritremate incrassato, subreflexo, postice angulifero; umbilico lato, intùs spiraliter striato; operculo corneo, crassiusculo, extùs sublamelloso, intùs lævi.

Cyclostoma Panayense, nob., Thes. Conch. part 3. pl. 30. f. 239. Cycl. testá globoso-conicá, tenuissimá, pellucidá, lævi, fuscescente, spirá brevi. obtusiusculá, anfractibus quinque, spiralitèr et distantèr substriatis, rotundatis, ultimo anticè ad periphæriam cariná obsoletá munito; aperturá magná, ferè circulari, peritremate lato, reflexo, ad ultimum anfractum interrupto, margine interno albo, externo fusco; umbilico parvo; operculo tenui, anfractibus 5—6.

Found on leaves of bushes in the island of Panay and in the moun-

tains of Basey, island of Samar, by H. Cuming.

Cyclostoma luteostoma, nob., Thes. Conch. part 3. pl. 30. f. 228, 229. Cycl. testá globoso-conicá, tenui, pellucidá, albidá, epidermide tenui, corned indutá; spirá acuminatá; anfractibus quinque, rotundatis, ultimo magno, ventricoso; aperturá subcirculari, peritremate reflexo, aurantiaco, latere columellari subsinuato, prope ultimum anfractum interrupto; suturá distinctá; umbilico parvo; operculo tenui corneo, multispirali.

On leaves of bushes in the island of Guimaras.

Cyclostoma insigne, nob., Thes. Conch. part 3. pl. 30. f. 232. Cycl. testd subglobosá, subconoided, prætenui, corned, pellucidd, viridescente fused, spirá acuminatiusculd; anfractibus quinque, primis rotundatis, lævibus, duabus ultimis tenerrimè transversim striatis, margine acutè carinato, posticè subplanulatis, 5- ad 7-carinatis, ultimo maximo, ante carinam subobsoletè 2- vel 3-carinatis; apertura magna, subcirculari, peritremate tenui, reflexo, intùs albo, ultimo anfractu modificato; umbilico exiguo; operculo tenui, corneo.

Found on leaves of trees at Calapan, island of Mindoro, by H.

Cuming.

Cyclostoma Fibula, Thes. Conch. part 3. pl. 30. f. 240, 241, 242. Cycl. testá suborbiculari, conicá, tenui, cinerascente-fuscá vel albidá, nonnunquàm fusco angulatim strigatá, spirá acuminatiusculá, anfractibus 5-6, lævibus, lineis spiralibus nonnullis elevatiusculis, ultimá magná, anticè obtusè carinatá, ante periphæriam subplanulatá; aperturá subobliquá, rotundato-subquadratá, peritremate reflexo, supra ultimum anfractum laté interrupto, latere umbilicali rotundato revoluto; umbilico parvo, angusto; operculo tenui, corneo, anfractibus 6-7.

Several varieties of this species were brought from the Philippine

Islands by Mr. Cuming; they are as follows:—

Var. a. Shell greyish red. Found on leaves of trees at St. Juan,

in the province of Cagayan, island of Luzon.

Var. b. Shell white, with angular brown stripes. Same locality as a. Var. c. Shell white, with very delicate brownish streaks. Same locality as a.

Var. d. Shell larger; white. Found upon palm-leaves near Catanaun, in the province of Tayabas, island of Luzon.

Var. e. Shell small; white. On leaves of trees at Lallo, in the

province of Cagayan.

CYCLOSTOMA LÆVE, Gray; C. immaculatum, Chemnitz.

Of this species Mr. Cuming has collected the following varieties, viz.

Var. a. Shell white, with an obsolete keel. Found on leaves of trees at Bulinao, province of Zambales.

Var. b. Shell whitish, covered with small brown streaks and dots.

Same locality as a.

Var. c. Shell white, with a brown band in front. Same locality as a. Var. d. Shell of a pale colour, with a brown circumferential band. Found on leaves of bushes at Sinait, in the province of South Ilocos, island of Luzon.

Var. e. Shell pale, with strongly marked irregular stripes of brown.

Same locality as a.

Cyclostoma perplexum, nob., Thes. Conch. part 3. pl. 30. f. 243, 244. Cycl. testá suborbiculari, subconicá, tenui, albidá, pallidè fusco variè nubeculatá, spirá brevi, anfractibus quinque, subrotundatis, lævibus, ultimo ad periphæriam subcarinato, posticè lineis levatiusculis distantibus nonnullis munito; suturá indistinctá; aperturá subcirculari, peritremate crassiusculo, reflexo, ad ultimum anfractum interrupto, latere umbilicali revoluto; umbilico mediocri.

Found on bushes at Abulug, isle of Luzon, by Mr. Cuming.

Cyclostoma mucronatum, nob., Thes. Conch. part 3. pl. 25. f. 91. Cycl. testá suborbiculari, depressá, pallescente-fuscá, tenui, spirá brevi, mucronatá; anfractibus quatuor, rapidè crescentibus, rotundatis, tenerrimè transversim striatis; suturá validá; aperturá circulari, peritremate duplici, externo lato, subreflexo, interno angusto, lineari; umbilico lato; operculo multispirali, suturá anfractuum lamellosá, margine canaliculato, intùs nitido.

Found by Mr. Cuming under decayed leaves at Calauang in Luzon.

Cyclostoma fulvescens, nob., Thes. Conch. part 3. pl. 25. f. 79, 80. Cycl. testd globoso-conicd, tenuiusculd, pallidè brunned, spird subacuminatd, anfractibus quinque, rotundatis, confertim spiralitèr striatis, ultimo maximo; aperturd ferè circulari, peritremate tenui; suturd distinctd; umbilico parvo.

From Madagascar. Sent to Mr. Cuming by Mr. Petit.

Cyclostoma lingulatum, nob., Thes. Conch. part 3. pl. 30. f. 208, 209, 210. Cycl. testá suborbiculari, subdepresso-conoided, tenuius-culá, lævigatá, pallidè fusco variè maculatá, vel radiatim strigatá, spirá brevi, subacuminatá, upice obtusiusculo; suturá subinconspicuá; anfractibus $4\frac{1}{2}$, ventricosiusculis, plerumque acutimarginatis, nonnunquàm margine ultimi rotundato; aperturá circulari, peritremate pallido, plerumque duplici, interno lineari, externo latiori, reflexo, supra umbilicum plus minusve latè extenso; umbilico mediocri; operculo corneo, tenui, multispirali.

Var. a. Distinctly keeled, dark brown, white-spotted near the

suture and at the circumference. Found on leaves of bushes in the island of Siquijod.

Var. b. Of a pale colour, variously mottled with dark brown.

Found in the same locality as var. a.

Var. c. Of a dark brown colour, with angular radiating white stripes. Found on leaves of bushes at Daleguete, in the island of Zebu.

Var. d. Strongly keeled, with dark brown marks radiating from the suture, and speckled with brown. Also from Daleguete.

Var. e. Last volution rounded. Found on leaves of bushes at

Sibonga, in the island of Zebu.

Var. f. Last volution rounded, colour very pale, variously mottled and speckled with brown. Found on leaves of bushes at Loboc, island of Bohol.

Var. g. Of a very dark colour, variously mottled, and with the ligulate appendage of the lip very small. Found on leaves of bushes at Argao, in the island of Zebu.

Var. h. Of a paler colour, but in other respects like g. Found on

leaves of bushes at Loboc.

Cyclostoma atricapillum, nob., Thes. Conch. part 3. pl. 30. f. 230, 231. Cycl. testá globoso-pyramidali, tenui, nitidulá, albicante, variè fusco-strigatá, apice nigro, anfractibus 5, subrotundatis, plus minusve obsoletè spiralitèr carinatis; suturá distinctá; aperturá rotundatá, supernè subacuminatá, peritremate acuto, reflexo, latere umbilicali subsinuato, ultimi anfractus interrupto; umbilico parvo; operculo corneo, tenui.

Mr. Cuming has brought the following varieties, viz.:-

Var. a. Nearly white, mottled variously with pale brown. Found on leaves of trees and bushes at Puerto-galero, isle of Mindoro.

Var. b. Of a brown colour, with pale mottlings. From the same

locality as a.

Var. c. Of a pale colour mottled with dark brown, and a dark and light brown articulated band in front of the suture. Same locality as a.

Var. d. Of a pale colour, with dark brown irregular stripes radi-

ating from the suture; paler in front. Same locality as a.

Var. e. White, with similar radiating dark brown stripes; keel white; brown stripes continued over the front. Found on leaves of trees and bushes at Calapan, island of Mindoro.

Cyclostoma goniostoma, nob., Thes. Conch. part 3. pl. 30. f. 223, 224. Cycl. testá suborbiculari, conoided, margine carinato, tenui, subpellucidá, lævi, albidá, fusco varie strigatá, spirá acuminatá, apice nigricante, obtusiusculá; anfractibus $5\frac{1}{2}$, planulatis, ultimo subventricoso, obsolete bi- vel tricarinatis, margine acuto, antice subplanulato; aperturá rotundato-subtrigoná, antice subrotundatá, postice extusque angulatá, peritremate tenui, angusto, reflexo; umbilico parvo.

The two following varieties were found by Mr. Cuming at Caga-

yan, in the province of Misamis, island of Mindanao:-

Var. α. Of a pale colour, with dark brown stripes.

Var. b. Of an uniform dun colour.

Cycl. testd subglobosd, pyramidali, tenui, lævi, pellucidd, albicante, spird acuminatd, apice obtusiusculo, fuscescente, anfractibus sex, rotundatis, substriatis, ultimo magno, carind ad periphæriam obsoletiusculd munito, ante carinam planulatiusculo; aperturd subcirculari, posticè subacuminata, peritremate tenui, reflexo, ad ultimum anfractum interrupto, latere umbilicali subsinuato; umbilico parvo. Found by Mr. Cuming on leaves of trees at St. Juan, isle of Luzon.

CYCLOSTOMA MINUS, nob., Thes. Conch. part 3. pl. 30. f. 249. Cycl. testd ovato-oblongd, cylindraced, tenui, hyalind, lavi, nitidd, spird obtusd, apice quasi truncato; anfractibus 4 ad 5, ventricosis, primis 2 ad 3 minimis, transversim costellatis; aperturd circulari, peritremate reflexo; umbilico nullo.

Found under decayed leaves in the mountains of Igbaras, province

of Ilo Ilo, island of Panay, by Mr. Cuming.

Cyclostoma ciliatum, nob., Thes. Conch. part 3. pl. 30. f. 237, 238. Cycl. testá suborbiculari, conoideá, tenuiusculá, lævigatá, fulvescente, fusco radiatim strigatá, spirá brevi, submucronatá; apice acuminatiusculo; anfractibus quinque, subrotundatis, ultimo magno, margine carinato (cariná epidermide ciliatá); aperturá circulari, peritremate reflexo, postice emarginato; umbilico magno; operculo tenui, corneo, multispirali.

Found under stones at Mount Isarog, in the province of South

Camarinas, island of Luzon.

Cyclostoma Helicoides, nob., Thes. Conch. part 3. pl. 30. f. 245, 246. Cycl. testd suborbiculari, conoidali, crassiusculd, spiralitèr striatd, fulvescente, fusco radiatim strigatd; spird brevi, acuminatiusculd, anfractibus 5 ad 6, rotundatis, anticè lævibus, posticè spiralitèr striatis, obsoletè 4- ad 5-carinatis, carinis duabus posticis epidermide ciliatis; aperturd circulari, peritremate duplici, albicante, posticè emarginato, interno tenui, levatiusculo, externo angusto, reflexo; umbilico majusculo; operculo tenui, corneo, multispirali.

Var. a. Dark-coloured. Found under decayed leaves at Gindul-

man, in the island of Bohol.

Var. b. Pale. Found under decayed leaves at Jacna, island of Bohol.

Cyclostoma parvum, nob., Thes. Conch. part 3. pl. 31. f. 254, 255. Cycl. testd suborbiculari, depresso-conoided, tenui, lævigatd, fulvescente, radiatim fusco strigatd, spird brevi, submucronatd, anfractibus quinque, rotundatis, tenerrime spiraliter striatis, obsoletissime 4—5-carinatis; aperturd circulari, peritremate simplici, postice subemarginato; umbilico magno; operculo corneo, crasso.

Var. a. Found under decayed leaves at Daleguete, island of Zebu. Var. b. Found under decayed leaves at Dingle, isle of Panay.

Cyclostoma maculosum, Thes. Conch. part 3. pl. 31. f. 256, 257. Cycl. testd suborbiculari, depressd, crassiusculd, lævi, castaned, albido-maculosd, spird paululum levatd, apice nigricante; anfractibus 4, rotundatis, obsoletè spiralitèr striatis; aperturd subcircu-

lari, peritremate subincrassato, subreflexo, posticè acuminatiusculo; umbilico maximo, spiralitèr castaneo lineato.

In Mr. Cuming's collection.

Mr. Gulliver then communicated his notes on the blood-corpus-

cles of the Stanley Musk Deer.

"Since my observations* have shown that the blood-discs of the Napu Musk Deer (Moschus Javanicus, Pallas) are minuter than those hitherto described of any other mammal, the size of the red particles of other allied species has become an interesting question.

"The following measurements which I have lately made of the blood-discs of the Stanley Musk Deer (Moschus Stanleyanus, Gray)

are expressed in vulgar fractions of an English inch:-

1-11339 1-10664 Common sizes. 1-16000 Small size. 1-8000 Large size.

1-10825 Average.

"Hence the corpuscles of this animal are nearly as minute as those of the Napu Musk Deer and smaller than those of the Ibex and of the Goat, as may be seen by a reference to the comparative measurements given of the corpuscles of the three last-named animals in my paper on the blood-corpuscles of the Ibex, published in the Proceedings of this Society, August 9, 1842."

Various species of Bats from the Philippine Islands, collected by Hugh Cuming, Esq., Corresponding Member, were placed on the table, and Mr. Waterhouse read his notes relating to them. He observed that the specimens exhibited formed part only of the extensive series brought home, and that he should lay the remaining portion

before the Society on a future occasion.

Of the genus Pteropus, as now restricted, Mr. Cuming's collection contained two species: one is undoubtedly the Pteropus jubatus of Eschscholtz; the other is perhaps new. It is rather less than the Pteropus Edwardsii, and does not agree precisely with any of the descriptions given by Temminck in his 'Monographies.' The head is rusty yellow, slightly tinted with brownish on the muzzle and around the eye; the back of the neck, down to the shoulder, is of a beautiful golden rust-colour; the hair here is loose, but from the shoulder downwards the hair is of a harsher nature, closely applied to the body, and is of a very deep brown hue, but somewhat tinted with rust-colour near the thigh; the throat is of a deep chocolate-brown colour, and the under parts of the body are of a bright rust tint, excepting at the sides, where a dusky hue prevails; the hair on the humerus and on the under side of the membrane is nearly black. The interfemoral membrane is very narrow and much hidden by the fur. The principal dimensions are-

^{*} Trans. Roy. Med. Ch. Soc. v. 23; Dublin Med. Press, Nov. 27, 1839.

	in.	lin.	
Total length	9	6	
Expanse of the wings			
From the tip of the muzzle to the ear	2	2	
Length of ear		10	
Depth of interfemoral membrane about	0	6	

The collection contains but one specimen of this species, and that is preserved in spirit; I will not venture therefore to apply a specific

name, having such imperfect materials.

Of the genus Pachysoma the collection contains three species— P. amplexicaudatum (Geoff.), P. titthæcheilum (Temm.), and the P. brevicaudatum (Is. Geoff.).

Macroglossus minimus (Pteropus minimus, Geoff.).—Of this species I find three specimens in the present collection. In all, the mem-

branes of the wings, &c. are of a rich reddish brown colour.

Genus Rhinolophus.—Four species of this genus were brought home by Mr. Cuming. The first and largest species, I can feel no doubt, having examined its skull in combination with the external characters, is the R. nobilis, Horsf. The second I have pretty clearly identified with the R. bicolor of Temminck, and the other two are, I believe, undescribed. Their characters may be thus expressed:—

Rhinolophus pygmæus. Rhin. prosthemate superiore semicirculari; corpore suprà nigricante (pilis ad basin albescentibus), subtàs cinerescente; auribus acutis ad latus exterius distinctè emarginatis.

	unc.	HIII.
Longitudo ab apice rostri ad caudæ basin	1	5
caudæ	0	$10\frac{1}{2}$
auris		
antibrachii	1	$5\frac{3}{4}$
Alarum amplitudo	8	6

This small species is almost of an uniform sooty colour (as seen in spirit), but the under parts are inclining to grey; and the fur on the back, though blackish externally, is nearly white next the skin; the hair on the lips and chin is white. The membranous appendages of the nose are of considerable extent, and, taken together, they form an oval figure; this is transversely divided near the middle by a slight fleshy ridge; the membrane in front of this ridge, and which encircles the nostril-openings, has its edges free, and on each side of the muzzle are two distinct longitudinal narrow folds of membrane, situated partially under the free edge of the membrane which encircles the nostrils: behind the transverse mesial ridge is what may be termed the posterior nose-leaf; this is of a semicircular form, has its margin thickened and raised, and sending forwards to the transverse ridge just mentioned three small ridges, dividing the interspace into four little hollows or pits. The ears are of moderate size, acute at the point, and have the outer margin distinctly emarginated. On the lips are some indistinct warts, and on the tip of the lower lip are two which are more prominent and distinct.

The R. pygmæus approaches somewhat to the R.bicolor, but differs

not only in colour, but in having the ears smaller and distinctly emarginated externally; the hinder nose-leaf is larger. It approaches in size the *R. tricuspidatus*. The ears are larger than in that species, and the nose-leaf is also larger, considerably more extended in the antero-posterior direction, and differs moreover in structure.

Rhinolophus Philippinensis. Rhinol. suprà obscurè fuscus, subtùs fusco-cinerescens; auribus magnis, subacutis, ad latus exterius emarginatis, et lobo magno accessorio, ad apicem rotundato, instructis; prosthemate maximo lobo posteriore lanceolato, anteriore valdè elevato, ad apicem truncato, ad basin dilatato, hoc ferroequino membraneo circumdato.

	unc.	
Longitudo capitis cum corpore	1	11
caudæ	1	0
aurium	0	11
antibrachii	1	10
Alarum amplitudo		

This species belongs to the same section as the Rhinolophus ferrum. equinum,—the second section of Temminck's 'Monographies,'—and approaches most nearly to the R. euryotis of that author, from which however it may be readily distinguished by the much larger size of the accessory lobe of the ear, and the truncated form of the foremost of the two membranaceous nasal appendages. It also approaches, in the large size of the ears and great development of the nasal appendages, the R. luctus of Temminck, but is of smaller size; the ears are rather less acutely pointed; the accessory lobe at the base is longer and proportionally narrower, and the proportions of the nasal membrane differ. In spirit the colour of the fur is very dark brown; on the under parts of the body rather paler than on the upper, and inclining to grevish. The nasal membranous appendages are very complicated, and being evidently on the same type as the R. luctus, I will compare them with the corresponding parts as shown in Temminck's figure of that species. The large decumbent horse-shoe membrane is the same as in luctus, and similarly notched in front. The foremost of the two elevated appendages is nearly the same, but the lateral lobes at the base are less produced and considerably smaller; joining these lobes on each side is a small membranous fold extending outwards and backwards, and is attached to the horse-shoe membrane. The posterior lobe is lanceolate and more pointed than in luctus, has a transverse fold near its base as in that species, and is joined to the anterior truncated elevated lobe by a longitudinally elevated membrane. The height of the posterior lanceolate lobe is $3\frac{1}{4}$ lines, and of the anterior lobe $2\frac{3}{4}$ lines, or rather more. On the side of the muzzle is a longitudinal fleshy ridge. The chin presents four warts, two at the tip and one on each side of these. The extreme point of the tail is free, the free portion being however not more than half a line in length.

Lastly, Mr. Waterhouse called attention to a new species of Megaderma.

MEGADERMA PHILIPPINENSIS. Meg. suprà cinereo-fuscus, subtùs

cinereus; prosthemate verticali, ferè ovali, ad apicem subtruncato, horizontali, paulò minori, cordiformi; auribus permagnis, trago elongato, attenuato, acuto, ad basin, anticè, lobo mediocri acuto instructo.

A STATE OF THE PARTY OF THE PAR	unc.	lin.
Longitudo capitis cum corpore	2	8
aurium	-	11*
antibrachii	2	24
Alarum amplitudo		9*

This species, of which Mr. Cuming's collection contains several specimens, agrees closely with the $M.\ trifolium$ of Geoffroy in having the foremost nose-leaf broader and the hinder one shorter and broader than in $M.\ Lyra$; but it differs from the $M.\ trifolium$ in the form of the tragus of the ear, this not presenting the character which suggested the specific name; it differs moreover (judging from M. Geoffroy's figure) in having the ears considerably larger, and not quite so deeply cleft. The whole length of the divided nose-leaf is $5\frac{3}{4}$ lines, of which the anterior cordifform portion is rather less than half; the greatest width of the posterior portion is nearly $3\frac{1}{4}$ lines, and of the anterior portion $3\frac{3}{4}$ or nearly $3\frac{5}{4}$ lines. The length of the tragus of the ear is $8\frac{1}{3}$ lines; it is very narrow and acutely pointed, and at the base has a small nearly triangular lobe about two lines in length.

The specimens from which my description is taken are preserved in spirit, consequently the proportions given of the nose-leaf, &c. are likely to be more accurate than were they preserved in a dry state.

Mr. Fraser pointed out the distinguishing characters of a new species of Partridge which had recently died at the Society's menagerie. Several specimens of this species, for which Mr. Fraser proposed the name *Perdix Bonhami*, were procured at Tehran, in Persia, by Edward W. Bonham, Esq., H.M. agent at Tabreez, Persia, and presented to the Society by that gentleman, together with a living specimen of the *Tetraogallus Nigelli* from the same locality, which having died had been stuffed, and was exhibited at the Meeting. The new Partridge was thus characterized:—

Perdix Bonhami. Perd. arenaceo-flava, plumis nigro adspersis præsertim apud latera, collum et pectus, hoc notá circulari ornato; strigis superciliaribus subocularibus, et frontalibus nigris; plumis auricularibus albis, laterum plumis nigro-marginatis; rectricibus caudæ quatuor externis crissoque rufis; rostro corneo.

Fœmina distinctiùs adspersa, quamvis notis nigris auribusque albis,

maris signis, caret.

This species is nearly allied to *Perdix Heyi*, Temm. Pl. Col., but is readily distinguished from that bird by the black stripes about the head of the male. The female differs in having a more mottled appearance.

Mr. Yarrell exhibited a specimen of the Puffinus obscurus from

* I measure the height of the ears externally from the crown of the head.

the Dardanelles, and called attention to some peculiarities in its habits, as pointed out in the 'Familiar History of Birds,' &c. by the Rev. Edward Stanley (now Bishop of Norwich), to whom the specimen belonged. Considerable interest is attached to the bird exhibited, since, though often alluded to by travellers who have visited the Dardanelles (but under native names only), naturalists were not aware to what species the accounts referred; and moreover certain prejudices of the inhabitants render it extremely difficult to procure this species of Petrel from the locality mentioned.

June 13.-Prof. Rymer Jones in the Chair.

The following Notes by Prof. E. Forbes, on the species of Neara

(Gray) inhabiting the Egean Sea, were read:

"Among the Mollusca inhabiting the seas of the Grecian Archipelago are four species of the genus Neæra, two of which have been

previously described, and two are apparently new.

"The described species are the Neæra cuspidata, a well-known shell, and the type of the genus, extensively distributed throughout the European seas. In the Egean it is scarce, but by no means local; and of all the Greek species, is that found in the shallowest water. The second described species is the Neæra costellata, a beautiful bivalve hitherto recorded only in the fossil state. It was described and figured by M. Deshayes in the great French work on the Morea, from specimens found in the tertiary strata of that country. I have taken it not unfrequently in the Egean, sometimes alive and at considerable depths, even below 100 fathoms.

"Of the new species, one is nearly allied to Neara cuspidata, and appears to replace it in the deeper parts of the Egean. I have called it

Neæra attenuata. N. testá oblongá, obsolete striatá, antice rotundatá, superiore subangulatá, postice longi-rostratá; rostro angusto, area lineari transverse striatá; umbonibus obtusis; dente laterali in valvulá superiori lineari. Long. $0\frac{5}{10}$; lat. $0\frac{2}{10}$.

"The second is an anormal and aberrant form, differing in its hinge characters from the other Egean species. It inhabits very deep water, even to 200 fathoms, and I have never taken it in less than 100. I have never met with it alive."

Neæra abbreviata. N. testá suborbiculari, transversè leviter sulcatá, anticè rotundatá, postice brevi-rostratá; rostro lato, area obsoletá; umbonibus acutissimis; dente laterali obsoleto.

The following paper was then read:—

"Descriptions of new species of Neæra, from the collection of Sir Edward Belcher, C.B., made during a voyage round the world, and from that of Hugh Cuming, Esq., obtained during his visit to the Philippines; with notices of the synonomy." By Mr. Hinds.

The number of species of Neara, Gray, now on record permits us to generalize on their geographic distribution. They are all found in water of greater or less depth, and spread over a wide extent of latitude; the larger proportion are found in the seas of warm climates, particularly of the Indian Ocean. In the Atlantic the group

is met with in a high northern latitude, but the number of species gradually diminishes towards the seas of temperate or cold climates. A few of the recent species are found in a fossil state in the more recent tertiary deposits, and there are some fossil species which hitherto have not been noticed in a recent state. The individuality of the genus has also been maintained by M. Nardo, who has called it Cuspidaria.

NEÆRA ROSTRATA, Chemnitz (sp.).

Mya rostrata, Chem., vol. xi. p. 195. vig. C, D.; Dillwyn, Cat. vol. i. p. 45.

Anatina longirostris, Lamarck, Hist. des An. sans Vert., ed. Des-

haves, vol. vi. p. 78.

Neæra chinensis, Gray. Griffith's Ed. of Cuvier's An. Kingd., Mollusca, pl. 2. f. 5.

Neæra chinensis, ibid. Index.

Corbula rostrata, Deshayes, ed. Lamarck. Note. Hanley's species of Lamarck.

Hab. China. Cab. Cuming.

NEÆRA CUSPIDATA, Olivi (sp.).

Tellina cuspidata, Olivi, Zool. Adriatic, p. 101. pl. 4. f. 1.

Erycina cuspidata, Risso, Hist. Nat. des environs de Nice, t. iv.

p. 366. f. 170.

Hab. As a recent shell it inhabits deep water in the Adriatic Sea; Northumberland; also the north-west coast of Sweden. Nor can I perceive any specific difference in the valve of a shell obtained from eighty-four fathoms in the China Sea, the temperature below being 66°, and at the surface 83°, except that it is the portion of a much larger shell. As a fossil it is described by Risso from 'Trinité,' and also abounds in Sicily.

N. testd magnd, diaphand, ventricosd, antice NEÆRA HYALINA. rotundata, postice subrostrata, rotundata; valvis subæqualibus; epidermide tenui, scabrd, indutd. Long. 11; lat. 7; alt. 8 lin.

Neara hyalina, Sowerby, ined.

Hab. China; Mr. G. B. Sowerby. Cab. Cuming et Belcher. My regard for the conchological attainments of Mr. G. B. Sowerby has induced me to adopt his cabinet name for this shell.

Neæra elegans. N. testá oblongá, tenui, lineis salientibus transversis ornatd; rostro angulato, corrugato; valvarum margine ventrali acuto, simplici. Long. 8; lat. 4; alt. 4½ lin.

Hab. New Guinea, China Sea, and Singapore. On a muddy floor,

in from seven to eighteen fathoms.

Cab. Belcher et Cuming.

NEERA COSTELLATA, Deshayes (sp.).

Corbula costellata, Deshayes, Géologie de la Grèce, Mollusques,

pl. 7. f. 1, 2, 3.

Hab. Originally described as a fossil by Deshayes, but has been subsequently obtained recent by Professor Forbes in the Adriatic Sea. A pair of valves is in the collection of Mr. Cuming, purporting as coming from the north-west coast of Sweden, and has the name of Neæra sulcata attached to them.

NEERA COSTATA, Sow. (sp.)

Anatina costata, Sowerby, Proc. Zool. Soc. 1834, p. 87.

Hab. The west coast of America, between 2° 47′ and 8° 5′ north lat., namely at St. Helena, from six fathoms, sandy mud; Magnetic Island, twenty-two fathoms; and coast of Veragua, twenty-six fathoms, mud.

Cab. Belcher et Cuming.

Neæra Gouldiana. N. testd oblongd, fragili, hyalind, ventricosd; costis duodecim radiantibus; valvis valde inæqualibus; rostro lineis tribus obliquis elevatis. Long. $3\frac{1}{2}$; lat. $1\frac{1}{2}$; alt. 2 lin.

Hab. New Guinea; Cagayan, island of Mindanao; and Bay of Manila, Philippines: in from seven to thirty fathoms, sandy mud.

Cab. Cuming et Belcher,

The specific name is in honour of Dr. Gould, the author of the able and luminous Report on the Mollusca of Massachusetts.

Neera Singaporensis. N. testa oblonga, fragili, hyalina, ventricosa, costis 17-20 radiantibus; valvis inæqualibus; rostro breviusculo, lineis tribus obliquis elevatis. Long. $2\frac{2}{3}$; lat. $1\frac{1}{3}$; alt. $1\frac{2}{3}$ lin.

Hab. Singapore; in seven fathoms, mud.

Cab. Cuming. A single specimen.

A shell so very similar to N. Gouldiana that it might most easily be confounded with it. In that species however I find the number of radiating ribs to be so constant in a number of individuals, that I must regard it a good diagnostic character. The present species then will be found to differ from it in its smaller size, diminished number of radiating ribs, and shorter beak.

Neæra casta. N. testd oblongd, fragili, hyalind, ventricosd; costis numerosis radiantibus, minoribus alternantibus, transversè subtilissimè striatd; rostro breviusculo, parvo, lineis obliquis elevatis instructo. Long. $2\frac{1}{3}$; lat. $1\frac{1}{3}$; alt. $1\frac{1}{2}$ lin.

Hab. New Guinea; dredged from a muddy floor in seven fathoms.

Cab. Belcher.

Neæra concinna. N. testá oblongá, fragili, subplanulatá; costis numerosis, parvis, confertis, ultimá maximá; valvis subæqualibus; rostro parvo, breviusculo, lineis tribus obliquis elevatis instructo. Long. $2\frac{1}{3}$; lat. 1; alt. $1\frac{1}{2}$ lin.

Hab. ___? Cab. Cuming.

Neera didyma. N. testá oblonga, lævigata, alba; costis duabus radiantibus; margine dorsali antico prominulo; rostro lato, subtruncato. Long. 3; lat. 2; alt. 2 lin.

Hab. The west coast of Veragua, in twenty-six fathoms, mud; in society with N. costata.

Cab. Belcher.

On the anterior and ventral margin there is a disposition to the formation of a number of small ribs; the shell is otherwise smooth and left to the occupation of the two prominent ribs, which eminently distinguish it.

Neæra rosea. N. testá oblongá, albidá, epidermide tenui striatá indutá; valvis inæqualibus, dextrá majori; rostro attenuato, roseo. Long. 3\frac{1}{2}; lat. 1\frac{2}{3}; alt. 2 lin.

Hab. New Guinea, in seven fathoms, mud; Cagayan, island of Mindanao; San Nicholas, island of Zebu, Philippines, in from five to thirty fathoms, sandy mud.

Cab. Belcher et Cuming.

Not unlike diminutive specimens of N. cuspidata; the anterior portion of the shell, however, does not occupy more than a third of its entire length; the beak is more attenuated and of a rose-colour; and I cannot perceive any vestige of the angular line which extends posteriorly from the umbo.

Neæra Philippinensis. N. testá oblongá, albidá, subplanulatá, epidermide tenui striatá indutá, in rostro brevi attenuatá; valvis inæqualibus, dextrá minori. Long. $2\frac{1}{3}$; lat. 1; alt. $1\frac{1}{2}$ lin.

Hab. Cagayan, island of Mindanao, and Batangas, island of Luzon,

Philippines; in from twenty to thirty fathoms, sandy mud.

Cab. Cuming.

Neæra trigona. N. testá trigona, alba, minutè sulcata; latere antico retuso; rostro brevissimo, obliquo. Long. $2\frac{1}{3}$; lat. $1\frac{1}{2}$; alt. $1\frac{1}{2}$ lin.

Hab. — ? Cab. Cuming.

Neæra iridescens. N. testá albidá, ventricosá, lævigatá, politá; valvis æqualibus, margine ventrali posticè emarginato; retusè rostratá. Long. 8; lat. 4; alt. $5\frac{1}{2}$ lin.

Hab. Sual, island of Luzon, Philippines; from five to seven fathoms,

sandy mud.

Neæra opalina. N. testá ovali, hyalind, lævigatá, politá, subplanulatá; valvis æqualibus; rostro gradatim elongato, obtuso. Long. 6; lat. 2; alt. 4\frac{1}{3} lin.

Hab. Bassey, island of Samar, Philippines; from four fathoms,

among coarse sand and mud. Cab. Cuming.

In the foregoing ventricose species the anterior portion of the shell is considerably dominant. In this flatter species the greater bulk is devoted to the formation of the rostrum.

Neæra lata. N. testd ovali, albidd, planulatd, iridescente, lævigatd, politd; valvis æqualibus; rostro lato, gradatim attenuato, planulato, obtuso; margine ventrali posticè subemarginato. Long. 12; lat. 4; alt. 7 lin.

Hab. Catbalonga, island of Samar, Philippines; from ten fathoms, soft mud.

Cab. Cuming.

These three latter species are aberrant, and hold the same relations to *Neæra* as *Nucula arctica*, Brod. et Sow., and its congeners do to that genus.

Various species of Mammalia from Coban, in Central America, were exhibited. These specimens were from Mr. J. Gray, who in a letter addressed to the Curator, which accompanied them, observes that the collection contains the following species: viz. Mustela frenata, Licht., Didelphys Quica, Heteromys Desmarestiana, Corsira tropicalis, Corsira Temlyas, Saccophorus Quachil, Mus Tazamaca, and Mus Teguina; all of which species, with the exception of the first two, are new to science.

ROYAL INSTITUTION.

Feb. 23.—At this evening's meeting Prof. E. Forbes gave a lecture "On the light thrown on Geology by Submarine Researches*." Having alluded to the researches of two Italian naturalists, Donati and Soldani, who dredged the Adriatic about the middle of the last century, Prof Forbes entered on the important inferences which he had derived from similar investigations in the Irish Channel and in the Archipelago. His first conclusion was, that marine animals and plants are grouped, according to their species, at particular depths in the sea, each species having a range of depth appropriated to itself. Prof. Forbes illustrated this assertion by a diagram, indicating the plants and animals respectively inhabiting what he termed the littoral zone, which extends immediately from the coast—the laminarian zone, where the broad-leaved fuci are most abundant—the coralline, in which there is an assemblage of mollusca, especially bivalves and corals, and the deep sea coral, so called because in it only we find examples of large corals on the British shores. Prof. Forbes next alluded to the fact of the number of species diminishing according to depth, so that by gaining an accurate knowledge of the fauna and flora appropriated to various sea-bottoms, the naturalist can infer their depth: no plants are found below 100 fathoms, and the probable zero of animal life is at 300 fathoms. Sedimentary deposits below this depth are consequently destitute of organic matter. This circumstance bids the geologist to be cautious in inferring that any stratum was formed before the creation of animals, on no other account than that it is devoid of organic remains: he should rather conclude from such deficiency, that the stratum was deposited in very deep water.

Prof. Forbes next remarked that British species are found throughout the zones of depth in the Mediterranean Sea; but that in that sea, the proportion of northern testacea in the lower zones greatly exceeds that in the upper, so that there is a representation of climates, or parallels of latitude, in depth. The fourth proposition advanced by the Professor was, that all varieties of sea-bottom are not equally capable of maintaining animal life. The sandy parts are usually the desert ones. Hence the scarcity of fossils in sandstone: though traces of worms (which inhabit the sand) are found in ancient sandstones. As each animal is not able to live, except on its own locality, those marine animals, as the scallop, which are gregarious, deteriorating the ground when they increase beyond a certain extent, die; then the place becomes silted up, the ground changes, and another race occupies it. This fact explains the phænomena of distribution of organic remains in rocks; i.e. their being grouped together in separate strata, fossiliferous strata alternating with those

which are free from organic remains.

^{*} We would refer the reader to the paper which Mr. Forbes published in our 4th volume "On a Shell Bank in the Irish Sea, considered Zoologically and Geologically," and it will be seen how ably and successfully he has during his voyage followed out the line of inquiry which he suggested four years ago.—See also vol. ix. p. 242.—Ed.

Prof. Forbes proceeded to observe, that such animals as are common to many zones of depth are those which have the greatest horizontal range in space, and are generally those which are present in the tertiary deposits; and thus it is that the most generally-distributed fossils are such as are found in the greatest number of formations; because these are necessarily the most independent of destroying in-But, on the other hand, as the elevation or depression of strata to a very small extent would destroy the species peculiar to any zone, or to the zone above or beneath it, it becomes an important inquiry how this destruction is compensated. In dealing with this question, Prof. Forbes announced a most important law in zoology, one altogether new to ourselves—viz. That the mollusca migrate. He discovered by his own observation, that this is the case even with the limpets, the most fixed of all species. This migration occurs in their egg-state, when the ova are strung together and floated over the ocean, from shore to shore. In the larva state they are swimmers. In fact, they commence their life in a form closely analogous to that which is permanent among the Pteropods; but though in this state they can live in any zone, they cannot arrive at perfection except in the peculiar zone to which they are adapted. This accounts for the very imperfect shells of prematurely-dying mollusca being found at a low depth. Professor Forbes concluded his communication by noticing its bearings on the views of the most eminent geologists of our time. 1st. With regard to Mr. Lyell's principle of distinguishing tertiary strata by the per-centage of recent species in each. This is confirmed by Prof. Forbes's investigations; only in using Mr. Lyell's criterion, the element of depth, which gives climatal character in living animals, must be taken into account. 2nd. Prof. Forbes next noticed that Sir H. De la Beche had hypothetically anticipated, what his researches established, the representations of climates and depth, ten years ago. 3rd. He lastly ascribed to Viscount d'Archiac and M. de Verneuil the credit of having announced (what he had observed and mentioned in the course of his communication), that species which are found in a great number of localities, and in very distant countries, are always those which have lived during the formation of several successive systems.—Athenœum.

BOTANICAL SOCIETY OF EDINBURGH.

This Society met on Thursday, the 8th of February, Professor Graham in the Chair.

The following communications were read:-

1. Two papers "On the British Desmidiacea," by Mr. Ralfs.

2. "On some species of Cuscuta," by Mr. C. C. Babington, M.A.,

F.L.S. &c. (Inserted in the present Number.)

3. "On the Marine Algæ of the vicinity of Aberdeen," by George Dickie, M.D., Lecturer on Botany in the University and King's College of Aberdeen.

All these will shortly appear in the 'Annals and Magazine of Na-

tural History.'